REMARKS

The Office Action dated April 27, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 21, 22, 24, and 25 have been amended and new claims 26-30 have been added. No new matter is being presented, and approval and entry are respectfully requested.

At the outset, the Examiner is thanked for indicating the withdrawal of the previous claim objections. Claims 19-30 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 112:

In the Office Action, at page 3, claims 21, 22, 24, and 25 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness.

In response, the claims have been amended to improve clarity. New claims 26-30 have been added corresponding to the recitations of dependent claims 21-25 and depending upon independent claim 20.

Accordingly, it is respectfully requested that the § 112, second paragraph rejections to the claims be withdrawn.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 2, claims 19-25 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. patent No. 6,393,007 to Haartsen et al. ("Haartsen") in

view of U.S. Patent No. 6,041,046 to Scott et al. ("Scott"). The Office Action took the position that Haartsen and Scott disclose all the aspects of claims 19-25. The rejection is traversed and reconsideration is requested.

Independent claim 19, upon which claims 21-25 are dependent, recites a method for data transmission in a cellular telecommunication system, in which system data are transmitted in units of bursts, each burst occupying a time slot (TS[j]) of one of consecutive frames (F[i]), each respective frame comprising a predetermined number n of time slots, within a each time slot (TS[j]) of each frame (F[i]), data can be transmitted between a first transceiver device and a respective one of a plurality of second transceiver devices either in a first transmission direction from said first transceiver device to said respective second transceiver device or in a second transmission direction from said respective second transceiver device to said first transceiver device opposite to a transmission direction in another time slot of the same frame (F[i]) in which data is transmitted between said first transceiver device and another one of said second transceiver devices. In addition, transmission in said first direction occurs in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1]). In said second direction (UL), during a first frame (F[i]) of consecutive frames respective second transceiver devices perform transmission to said first transceiver device during a kth time slot (TS[k]) assigned thereto for transmission, and during a subsequent second frame (F[i+1]) of said

consecutive frames, and respective second transceiver devices perform transmission to said first transceiver device during a different lth time slot (TS[l]) assigned thereto for transmission, with $0 \leq k, l \leq n-1$ and $k \neq l$.

Independent claim 20, upon which claims 21-25 are dependent, recites a method for data transmission in a cellular telecommunication system, in which system data are transmitted in units of bursts, each burst occupying a time slot (TS[j]) of one of consecutive frames (F[i]), each respective frame comprising a predetermined number n of time slots, wherein within a each time slot (TS[j]) of each frame (F[i]), data can be transmitted between a first transceiver device and a respective one of a plurality of second transceiver devices either in a first transmission direction from said first transceiver device to said respective second transceiver device or in a second transmission direction from said respective second transceiver device to said first transceiver device opposite to a transmission direction in another time slot of the same frame (F[i]) in which data is transmitted between said first transceiver device and another one of said second transceiver devices. Further, transmission in said first direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]). In said first direction during a first frame (F[i]) of consecutive frames respective first transceiver devices perform transmission to said second transceiver device during a kth time slot (TS[k]) assigned thereto for transmission, and during a subsequent second frame (F[i+1]) of said consecutive frames,

respective first transceiver devices perform transmission to said second transceiver device during a different lth time slot (TS[l]) assigned thereto for transmission, with $0 \leq k$, $l \leq n-1$ and $k \neq l$.

As will be discussed below, the cited prior art of Haartsen and Scott fail to disclose or suggest the elements of any of the presently pending claims.

Haartsen generally describes in FIG. 3 an effect of time hopping applied to a TDMA/TDD transmission scheme. FIG. 3 shows two subsequent TDMA/TDD frames, indicated hop (k) and hop (k+1), respectively. See column 7, lines 51-57. However, according to Haartsen, by applying time hopping, there is a severe risk that the return channel becomes available before all the data in a frame have been transferred, such that acknowledgement within the same frame is not possible.

Thus, Haartsen would appear to teach away from the recitations of the presently claimed application. Haartsen is silent as to teaching or suggesting, at least, "transmission in said first direction occurs in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1])," as recited in independent claims 19 and 20. To cure the deficiencies of Haartsen, the Office Action relies on Scott as teaching the recitations of the transmission as recited in independent claims 19 and 20.

However, similarly to Haartsen, Scott is devoid of any teaching or suggestion of the particular data transmission sequence recited in independent claims 19 and 20. Scott

simply describes a technique for cyclic time hopping in a multiple access communication system. See column 2, lines 13-19. Although the portions of Scott referred to in the Office Action appear to indicate that some different transmission sequences may be possible, Scott does not teach or suggest the particular data transmission sequence recited in independent claims 19 and 20.

For instance, on page 2, last paragraph, of the Office Action, the Office Action refers to column 13, lines 53-55, of Scott as describing "predetermined and fixed time slots since the time hopping scheme is programmed in advanced." However, the referred portion of Scott only defines that "the **time hopping pattern** is programmed in advance in each of the user stations 102." Emphasis added. Contrary to the contentions made in the Office Action, Scott does not teach or suggest, "transmission in said first direction occurs in **predetermined and fixed time slots** (TS[j]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1])," emphasis added, as recited in independent claims 19 and 20. Namely, the term "time hopping" of Scott, by definition, indicates that there are not fixed time slots.

Although Scott provides that a time hopping pattern may be programmed in advance in each of the user stations, thereby allowing each user station to know in advance the time hopping pattern (See Summary of The Invention, and column 2, lines 35-47 of Scott), and such time hopping pattern is a pseudorandom hopping pattern in each of consecutive frames. For instance, as illustrated in FIGS. 6, 17A, 17B, 26, and 27

of Scott and corresponding descriptions, it appears that the hop sequence varies for each time frame. Specifically, each time slot in each frame is assigned to a particular user station and for each consecutive frame the assignment varies for each slot.

Although the Office Action refers to FIG. 6 of the present invention (page 3, lines 1-5, of the Office Action), Applicants respectfully direct attention to FIGS. 4 and 5 and the corresponding description provided in the Specification of the present invention, which provide support to the recitations of independent claims 19 and 20. Naturally, other portions of the Specification may be referred to for supplemental support. In addition, on page 3, lines 5-9, of the Office Action, the following is stated "it may appear applicant is attempting to argue that transmission *of the hopping scheme* is fixed with respect to all of the frames since applicant references that the hopping scheme may vary from frame to frame as taught by *Scott*. However, the above limitation *is not recited in the claims*." Applicants respectfully traverse such assertion made in the Office Action. Independent claim 19 and 20 recite, "transmission in said first direction occurs **in predetermined and fixed time slots** (TS[j]) in **each of consecutive frames** (F[i], F[i+1])," emphasis added. Thus, contrary to the assertions made in the Office Action, the claims do recite that the transmission occurs in fixed time slots in each of the consecutive frames. In contrast, the hopping scheme of Scott varies from frame to frame. Haartson is devoid of any teaching or suggestion pertaining to the transmission in the first direction as recited in independent claim 19. Thus, a combination of Haartson and Scott would not provide for all of the recitations of independent claim 19.

Even though Haartsen is silent as to providing the transmission sequence recited in independent claim 19, for instance, "transmission in said first direction occurs in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1]), wherein in said second direction (UL), during a first frame (F[i]) of consecutive frames respective second transceiver devices perform transmission to said first transceiver device during a k^{th} time slot (TS[k]) assigned thereto for transmission, and during a subsequent second frame (F[i+1]) of said consecutive frames, respective second transceiver devices perform transmission to said first transceiver device during a different l^{th} time slot (TS[l]) assigned thereto for transmission, with $0 \leq k, l \leq n-1$ and $k \neq l$," the Office Action appears to incorporate these recitations of independent claim 19, for instance, into Scott to cure the deficiencies of Haartson and to arrive to the present invention. However, although it may be possible that such transmission sequence may be set in the framework of Scott, the features of the transmission sequence recited in independent claim 19 are not in Haartson and Scott, individually or combined. Haartson is silent as to providing the features and Scott does not give any description or suggestion of providing the transmission sequence as recited in independent claim 19. There is no teaching or suggestion in Scott why the sequence should be applied in which some of the time slots are fixed while others are varied.

Column 2, lines 33 to 58 of Scott, basically describes that the "the time hopping pattern for user stations may be limited to only, e.g., odd time slots...The base station

transmission follows in the even time slot immediately following the corresponding user slot." However, the description provided in this portion of Scott does not provide that the sequence in either the odd or the even slots is fixed. That is, Scott does not teach or suggest, "in said second direction (UL), during a first frame (F[i]) of consecutive frames respective second transceiver devices perform transmission to said first transceiver device during a k^{th} time slot (TS[k]) assigned thereto for transmission, and during a subsequent second frame (F[i+1]) of said consecutive frames, respective second transceiver devices perform transmission to said first transceiver device during a different l^{th} time slot (TS[l]) assigned thereto for transmission, with $0 \leq k, l \leq n-1$ and $k \neq l$," as recited in independent claim 19. Instead, based on FIG. 6 of Scott, a person of ordinary skill in the art can only conclude that the hopping is effected over all of the time slots.

Haartsen, in turn, describes a time hopping sequence in TDMA radio communication system. In column 2, lines 37-42, the problem of regular time hopping (namely interference) is mentioned, but Haartsen does not show a clear solution to this problem, as correctly recognized on page 4, of the Office Action by indicating that "Not clearly taught in the figures is the further limitation of 'transmission in said first direction (DL) occurs in predetermined *and fixed time* slots in each of the consecutive frames.'"

Thus, in view of the descriptions provided in Haartsen and Scott, even if both references are combined as suggested by the Office Action, a combination thereof would fail to teach or suggest all the recitations of independent claim 19.

It appears that, in order to arrive to the recitations of the presently claimed invention, the Office Action is improperly rejecting the claims using hindsight by attempting to modify Haartsen and Scott using the teachings of the present invention to then arrive to the claimed features of the claims. If a person skilled in the art combines the descriptions of Haartsen and Scott, the combination thereof would not provide the recitations of independent claim 19. Because Scott does not show the specific recitations of independent claim 19, Scott cannot modify Haartsen such that a combination thereof would arrive to the subject matter of independent claim 19.

Accordingly, in view of the foregoing, it is respectfully requested that the rejection to the claims be withdrawn and the independent claim 19 and related dependent claims be allowed.

Independent claim 20 recites, "...transmission in said first direction occurs in different time slots (Ts[k], Ts[l]) in each of consecutive frames (F[i], F[i+1]), and transmission in said second direction occurs in predetermined and fixed time slots (TS[j]) in each of consecutive frames (F[i], F[i+1]), wherein in said first direction during a first frame (F[i]) of consecutive frames respective first transceiver devices perform transmission to said second transceiver device during a k^{th} time slot (TS[k]) assigned thereto for transmission, and during a subsequent second frame (F[i+1]) of said consecutive frames, respective first transceiver devices perform transmission to said second transceiver device during a different l^{th} time slot (TS[l]) assigned thereto for transmission, with $0 \leq k, l \leq n-1$ and $k \neq l$." Because independent claim 20 includes

similar claim features as those recited in independent claim 19, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claims 19 and 20, the arguments presented above supporting the patentability of independent claim 19 are incorporated herein to support the patentability of independent claim 20.

Accordingly, in view of the foregoing, it is respectfully requested that the rejection to the claims be withdrawn and the independent claims 19 and 20 and related dependent claims be allowed.

CONCLUSION:

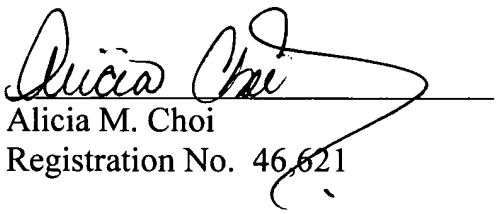
In view of the above, applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 19-30 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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